SYSTEMS DESIGN

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ABSTRACT

The systems analyst has a responsibility to corporate or department management. The analyst must be able to gather information and through the analysis of that information, provide management with a plan to further corporate or department goals. This session reviews a general course of action, but more importantly it goes into the system analyst's responsibility and a practical method to support management.

INTRODUCTION

Although much of what we talk about is applicable to any systems design plan the major emphasis will be on the utilization of microfilm as a management tool. There has been a great deal of emphasis on "office automation" techniques recently, but three important points should be kept in mind:

- o Microfilm is an excellent data base storage device.
- o Office automation systems will require back-up support.
- o Microfilm applications are developing at a very great rate.

Not too long ago a "White Paper" presented on NBC reviewed the difference between American and Japanese management. It is interesting to note that the Japanese believe that 80 percent of the problems and errors on a production line are the fault of management, not the production workers. Most of today's micrographic systems are being installed in active record system areas where errors cannot be tolerated. Most micrographic systems that fail probably fail for one of three causes:

1. The feasibility study arrived at the wrong conclusions, but these incorrect conclusions were never corrected.
2. There was a poor systems design effort.
3. Quality assurance was not maintained.

Each of the above failures usually can be directed to poor management actions, and often this is because management did not have the correct information upon which to make the right judgments, or worse yet, the information was given in such a poor form that they misread it.

Unfortunately, in micrographics today, it appears that many systems analysts look for simple--therefore often incomplete solutions.

Remember:

"There are no simple solutions--only intelligent choices."

I. A very brief history of business micrographics

- A. Invention
- B. V-Mail
- C. Camera development
- D. Applications
- E. State-of-the-art and the future

II. Past Methods of Systems Analysis in Micrographics

- A. Vendors or manufacturers
- B. In-house development
- C. Consultants

III. Developing a Systems Analysis Program

- A. History
- B. Feasibility study phase
  1. Purpose--goals management requirements
     - a. Review what are goals and how to recognize them
       - i. Cite specific examples from previous studies
       - ii. Interpret goals into requirements
       - iii. Getting an idea of what management needs in order to make decisions
  2. Problem definition--how much detail
     - a. Causes
     - b. Examples

3. Projections--solutions

   a. Results
   b. Effects on:

      -- staff
      -- space
      -- time

4. Costs and how to present them

5. The system analyst's responsibility to management during the feasibility study phase
6. What are the results of a feasibility study

C. Data gathering phase

1. Purpose--objectivity
2. Format

   a. Responsibility
   b. Flow charts and narrative

3. Questions to be answered (see attached)
4. Methods for getting information
5. Corporation--confidence and support
6. What to watch out for--the hidden surprises
7. Functional specifications--agreement

D. Systems design phase

1. Review goals against data gathering phase
2. Determine what we are looking for--the "total product"
3. System selection alternative
4. Special problems

   a. Equipment
   b. Indexing
   c. Other

5. Value criteria
6. Systems design report factors
    a. Factors
    b. Costs
    c. Personnel
    d. Availability
    e. Reliability
    f. Development time
    g. Space
    h. Integration
    i. Management
7. Authorization

E. Implementation planning phase

1. Purpose--supporting the systems design plan
2. Charting (PERT)
3. Documentation
    a. Specifications
    b. Contracts
    c. Job descriptions
4. Implementation plan results

F. A review of what to expect after the implementation plan phase has been completed--from the systems analyst's point of view and responsibility.

SYSTEMS FACTORS

Records	What is the total number of records?
	How many pages are there per record?
	How many records are added per day?
	What is the format of the record?
Pages	How many pages are added per day?
	How many pages are deleted per day?
	How many characters are there per page?

Files	What is the total number of data bases? How many file accesses are there per day? What is the medium of the records and indexes? What is the index structure? What are the file integrity requirements? What is the quality of the file contents? Are these working files or archival files? Are the files active or inactive?
Reproduction	What is the volume of reproduction per day? What type of reproduction is required?
Users	What is the total number of system users? What is the the nature of their search techniques? What response time is required by the users? If there are satellite files, who holds these? What is the distance between the users? Are the users local or remote?
Management	What are the privacy requirements? What type of management statistics are needed? How much system documentation is required? Is the legality of the records an issue?